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Research Highlight

'Atmospheric health burden across the century and the accelerating impact of temperature compared to pollution'

Summary

Anthropogenic emissions alter atmospheric composition and therefore the climate, with implications for air pollution- and climate-related human health. Mortality attributable to air pollution and non-optimal temperature is a major concern, expected to shift under future climate change and socioeconomic scenarios. In this work, results from numerical simulations are used to assess future changes in mortality attributable to long-term exposure to both non-optimal temperature and air pollution simultaneously.

Impact

This study shows that under a realistic scenario, end-of-century mortality could quadruple from present-day values to around 30 (95% confidence level:12-53) million people/year. While pollution-related mortality is projected to increase five-fold, temperature-related mortality will experience a seven-fold rise, making it a more important health risk factor than air pollution for at least 20% of the world's population. These findings highlight the urgent need to implement stronger climate policies to prevent future loss of life, outweighing the benefits of air quality improvements alone

Author's bio

Andrea Pozzer completed his BSc in Physics at the university of Padua (Italy) and Ph.D. at the University of Mainz, Germany, in collaboration with the Max Planck Institute for Chemistry (Mainz, Germany). After working as a postdoctoral researcher at the Cyprus Institute (Nicosia, Cyprus) and the International Center of Theoretical Physics (Trieste, Italy) he became research group leader at the Max Planck Institute for Chemistry and he is since 2022 adjunct assistant professor at the Cyprus

Reference

Pozzer, A., Steffens, B., Proestos, Y., Sciare J., Akritidis D., Chowdhury S., Burkart K. & Bacer S. Atmospheric health burden across the century and the accelerating impact of temperature compared to pollution. Nat Commun 15, 9379 (2024). https://doi.org/10.1038/s41467-024-53649-9

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Institute. His main focus is on numerical modeling of atmospheric chemistry with special focus on air quality and pollution.